PROCEDURES FOR CHECKING THE RATE OF EVAPORATION FOR DRYING OVEN AASHTO T 104

A. PURPOSE

This method is intended to provide instruction for the verification of the rate of evaporation of drying oven used to dry sulfate soundness samples.

B. APPARATUS REQUIRED

1. Enough 1-Liter Griffin Low-Form beakers to allow five (5) beakers per shelf in oven
2. A calibrated thermometer capable of indicating a temperature of 67 °F - 73 °F (19 °C - 23 °C) and readable to 1.0 °F or 1.0 °C
3. A calibrated balance capable of weighing 2000g and readable to 0.1g.

C. PROCEDURE

1. Check temperature to verify a temperature of 221 °F ± 239 °F (105 °C - 115 °C).
2. Determine the temperature (67 °F - 73 °F or 19 °C ± 23 °C) of approximately one (1) gallon of water.
3. Pour 500 grams of water into enough beakers to allow the placement of five (5) on each shelf and record weight of beaker and 500 grams water.
4. Place beakers at each corner and in the center of each shelf. (See Equipment Verification Record.)
5. Close oven door and do not open for four (4) hours.
6. After four (4) hours have elapsed, reweigh beakers and water.
7. Reweigh all beakers and determine amount of loss of water from each and record.
8. Determine loss per hour by dividing total amount loss in grams by number of hours (4) and record.
9. A minimum loss of 25 grams per hour applies to each beaker position.

D. TOLERANCE

Will meet the specification requirements stated in AASHTO Test Method T 104, Section. 3.5.

EQUIPMENT VERIFICATION RECORD

Verified By: _____ Date: _____

Equipment: Sulfate Soundness Ovens Location (Lab): _____

Identification No.: _____ Verification Frequency: 12 months

Previous Verification Date: _____ Next Due Date:

Verification Equipment Used: Calibrated Thermometer (readable to 1.0 ºF or ºC and within the range to be tested), SN: _____ Five One-liter Griffin Beakers, ID No.: _____

Verification Procedure: (In-house) OMR-CVP-16 / AASHTO T 104

Manufacturer: _____ Identification No.: _____

Dimensions: _____ Type: _____

Maintains constant temperature between 105º and 115ºC (221º and 239ºF)?

Record Temperature Maintained: _____

Physical Condition: (Circle one) GOOD FAIR POOR

RATE OF EVAPORATION TEST

Ending time _____

Starting time _____

Test time _____

Shelf

2	3
5	
1	4

Place 1-liter Griffin beakers on each shelf as shown in diagram.

Beaker Number	1	2	3	4	5
Beginning weight					
Ending weight					
Amount lost					
Loss per hour					
Loss of at least 25 g/hr.	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
Beaker Number	1	2	3	4	5
Beginning weight					
Ending weight					
Amount lost					
Loss per hour					
Loss of at least 25 g/hr.	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO
Beaker Number	1	2	3	4	5
Beginning weight					
Ending weight					
Amount lost					
Loss per hour					
Loss of at least 25 g/hr.	YES / NO	YES / NO	YES / NO	YES / NO	YES / NO

Note: Use additional sheet(s) if more than two shelves are present.